

Libby Asbestos Project

Project Status Briefing

November 13-15, 2007



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Meeting Agenda

**Tuesday November 13, 1:00 pm through
Wednesday November 14, noon**

- 2007 in review (Project organization & accomplishments by WAF)
- Laboratory capacity analysis
- Cost impact of removing visible vermiculite
- ERS position activity and performance



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Meeting Agenda (continued)

Feds-only Session – Wednesday November 13, 1:00 pm – 5:00 pm

- Budget/Spending review
- Contracting status and strategy
 - Status of existing contracts
 - Planned actions for 2008
 - Construction contracting options:
 - Design-build contracting w/A&E firms
 - Other options
 - Staff expansion to cover requirements of non-OU4 work

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Meeting Agenda (continued)

Thursday November 14, 8:00 am – 5:00 pm

- Planning for 2008, setting goals and priorities
- Process improvements planned for 2008
 - Health & Safety auditing
 - Oversight changes
 - GFE tracking and management
 - Program participation risk management

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Volpe Center Project Role

- Project Management, Engineering, Scientific & Information Management Support
 - On-Site Federal Presence For:
 - Community Involvement Coordination, Oversight of Volpe Center A-E, Remediation, and Associated Contractors
 - Procure and Administer Supporting Contracts (Security, Fill, Topsoil, Landscaping, Temporary Relocations)
 - Information Management Including Geolocation
 - Investigation and Laboratory Analysis

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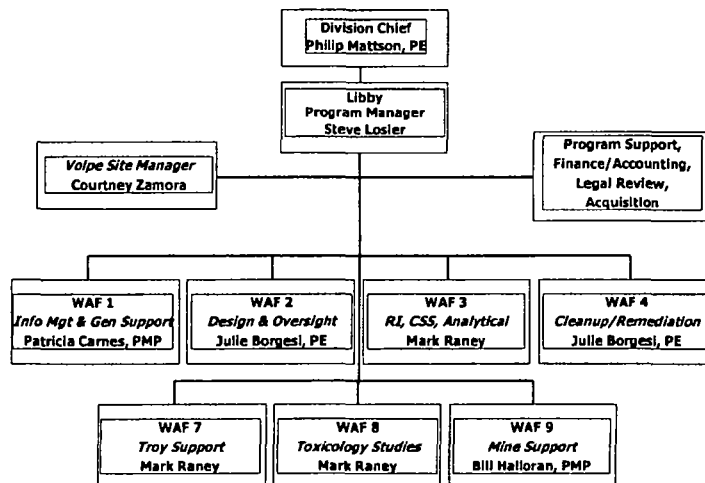
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Volpe Center Project Organization



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WAF 1: Database & General Support

- **WAF 1 Manager – Pat Carnes, PMP**
 - Financial Management and Records Retention
 - Database Support



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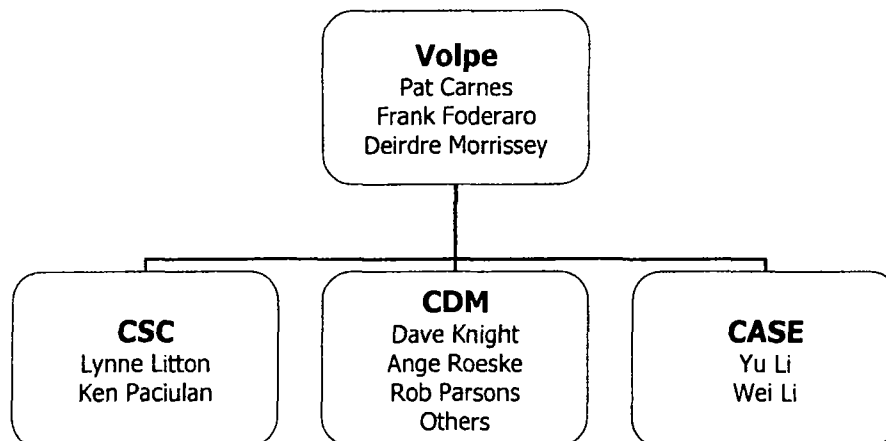


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Database Support Team



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Database Support

■ 2007 Accomplishments

- Backup Server
 - Installed a new server in Golden, CO
 - Completed a CoOP test
- SCRIBE
 - Developed EPA report tables for SCRIBE
 - Developed automated procedures to update SCRIBE tables
- QualityNet – DB02
 - Completed pilot

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Database Support

■ 2007 Accomplishments (continued)

- Server Support
 - SQL security patches
 - Old server moved to Libby
 - Security documentation
- Data Analysis and Rectification
 - 26 items resolved
 - Data validation query
- User Validation
 - SecuRemote
 - Database Server
 - eRoom

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Database Support

- 2007 Accomplishments (continued)
 - Application Modifications
 - eLASTIC
 - FOCIS Phase I
 - Resident letters
 - Data Entry Application
 - Four (4) modifications
 - EDD Load
 - PLM optical properties
 - TEM counting fields
 - Miscellaneous changes

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Database Support

- 2007 Accomplishments (continued)
 - Ad Hoc Work
 - Epi data support
 - SEIC/VVEF support
 - GIS maps
 - Support for PDI activities
 - GIS Data rectification
 - EDD mapping for EPA

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Database Support

- 2007 Ongoing Work
 - Enter and Validate Data Including: Field Samples, Analytical Results, Chain-of-Custody, Site Checklists (EIC, SIIC & PCC), CSF Data, Property Status and GIS data.
 - Produce Database Queries and Ad Hoc Reports as Requested
 - Maintain GPS/GIS Data
 - Perform Database and System Administration Activities
 - Perform Data Clean-Up Activities
 - Support SRC and DOJ as needed
 - Support Unanticipated Development Needs
 - Support Current Applications
 - Scan FSDS, lab reports, COC

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WAF 2: CI, Design & Oversight

- **WAF 2 Manager – Julie Borges, PE**
- **Task Order Manager – Michelle Heimgartner**
 - Community Involvement (incl. EPA Info Center)
 - Coordinate and manage relocations
 - Design Support (PDIs/Design Development)
 - Summarize work plans, select properties for removal task orders
 - Cost and schedule tracking; deliverables tracking and review; invoice approval

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WAF 2: CI, Design & Oversight

■ WAF 2 (continued)

- Oversight and coordination of A-E, removal, and removal related contractors
- CDM Task Orders -
 - TO 1: Community Involvement
 - TO 9: Removal Action Design
 - TO 12: Removal Action Oversight.

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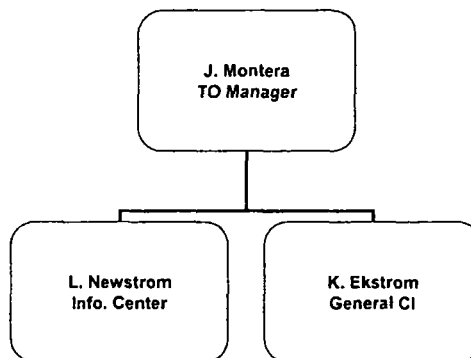


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Community Involvement Support

■ CDM CI Team



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Community Involvement Support

■ CI Scope

Information Center

- Staff office
- Maintain office
- Greet public
- Schedule appointments
- Assist with agency visits
- Maintain hotline

General CI Support

- CAG support
- Public meetings
- Fact sheet production
- Public notices
- "Ask EPA" column
- Mailing list

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Community Involvement Support

■ 2007 Accomplishments

- Maintain and Staff EPA Information Center
- Monthly CAG Meeting Support
- Public Meeting Support
 - March town meeting, EPA Availability Session, Budget Meeting
- Provide and Maintain Project Docs at Info. Center

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Community Involvement Support

■ 2007 Accomplishments (continued)

■ Communication Support

- 3 *Superfund and You* columns
- Ads in three local papers and on radio and cable for monthly meetings
- Special meetings (see above)
- New launches (ERS position and ABS)
- EPA fact sheets (annual, vermiculite, and HEPA vacuum) and various other EPA requests for support
- Other (homeowner assoc. and asbestos training classes); asbestos warning signs for creeks; seat belt safety posters

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Community Involvement Support

■ 2007 Accomplishments (continued)

■ Prepare and Supply CIC Materials

- Pre- and Post-Relocation residential info packets (~150 each), business information packets, *Caring for Your New Lawn* brochure (original and hydroseed), Yard and Garden "expectations" brochure, copies of various fact sheets for Info Center, poster of residential comments

■ Residential Evaluation Surveys

- Continue to survey, compile, and distribute results of surveys to field and management team for removal/restoration properties and additionally for ABS participants

■ Special Projects

- Mass mail CSS sample results, launch ERS position (ads, flyers, magnets, column), support ABS (flyers, ads, notification letters), asbestos training classes (ads and flyers)

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Community Involvement Support

■ Hotline

Category	Number	Category	Number
■ ABS	13	■ Letters to Residents	45
■ Complaints	21	■ Other	2
■ Completion Form	1	■ PDI Team	3
■ Contractor Training	3	■ Post Cleanup	94
■ Current Removal	2	■ Pre-Design	88
■ Address Change	253	■ Quick Response	4
■ ERS	63	■ Requests	130
■ Information	56	■ Troy Requests, Info.	67

Total number of Calls/Visits 845

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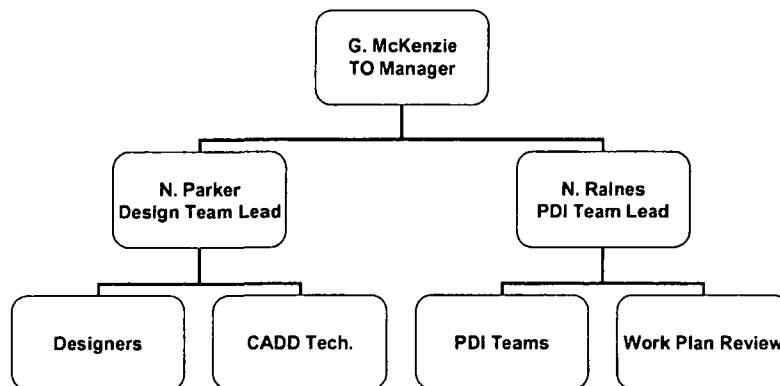


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Design Support

■ CDM PDI/Design Team



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Design Support

■ Pre-Design Investigation (PDI) & Design Scope

PDI

- Survey
- Site Inspection
 - EIC
 - SIIC
- Sampling & Analysis
- Maintain and update SOPs as needed
- Landscape inventories

Design

- Develop & Maintain Schedule
- Site-Specific Drawings
 - Exterior
 - Interior
- Removal Action Designs and amendments
- Maintain and update SOPs/Specs as needed

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Design Support

2007 Accomplishments

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Design Support

■ 2007 Accomplishments (204 Designs)

Design Submittal	Date	Designs Completed
1	Nov-06	25
2	Dec-06	25
3	Jan-07	25
4	Feb-07	25
5	Mar-07	25
6	Apr-07	25*
7	May-07	25
8, 9a	Jun-07	26
9b	Jul-07	3*
Total for 2007 Removals		204

* 1 demo design submitted in Apr and 3 demo designs submitted in July

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Design Support

■ 2007 Accomplishments (217 PDIs)

Date	PDIs Completed
Apr-07	21
May-07	36
Jun-07	27
Jul-07	27
Aug-07	39*
Sep-07	30
Oct-07	37*
Total for 2008 Removals	217

* Includes CVCC PDI in Aug; 8 Troy PDIs in Oct

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Design Support

■ 2007 Accomplishments (continued)

- Prepared 153 plant inventories and 123 revisions
- Prepared 264 mods
- Streamlined designs
- Developed and implemented several protocol revisions
- Completed PDI for golf course
- Completed 192 revisits for VV protocol change
- Developed baseline and alternate designs to accommodate potential VV protocol change
- Completed design for White property

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Design Support

■ Streamlined Designs

- Designs evolved over the last 4 years and were becoming more complex
- Deleted many call-outs and notes
- Moved property specific notes to general notes
- Coupled with eliminating alternate drawings, this simplified the designs
- Benefits
 - Reduces cost of developing and reviewing drawings
 - Make drawings easy to read by contractor and field staff

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Design Support

- Protocol Changes
 - Implemented visual vermiculite inspections and designs / collected 30-point soil samples (rather than 5-point)
 - Conducted full surveys on every property
 - Eliminated dust sampling
 - Eliminated alternate drawings
 - Revised crawlspace protocol to move certain work to O&M

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Design Support

- Visual Vermiculite Inspections /
30-Point Soil Samples
 - Visual Inspections implemented 4/6/07
 - Pilot study during 2006 season
 - 30-Point Soil implemented 5/29/07
 - Multiple protocol changes throughout the season
 - Benefit – Increases overall accuracy of characterization
 - Cost – Increases field time/LOE

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Design Support

■ Visual Vermiculite Inspections / Soil Samples - Current Protocol

Area Type	Visible Vermiculite Protocol	Soil Sampling Protocol
SUA (Flowerbed, Garden, Play Area, etc)	1/100 ft ²	< 1,000 ft ²
Driveway (SUA)	1/200 ft ²	< 6,000 ft ²
CUA (Yard, etc)	1/100 ft ²	< 3,000 ft ²
LUA (Field, Pasture, etc)	1/500 ft ²	< 15,000 ft ²
ISA (Shed, Carport, Garage, etc)	1/100 ft ²	Size of Building
Crawlspace (ISA)	1/100 ft ²	Size of Building
NUA (Wooded Area, etc)	No Inspection	No Inspection

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Design Support

■ Full Property Surveys

- Previously, all properties were sketched by hand in field and survey was completed after field visit
- Currently, full property surveys are conducted on every property before field visit
- Benefits
 - Decreases in field inspection, design, & CADD time
 - Increases accuracy of removal/restoration volume estimates
 - Increases overall characterization accuracy
 - Decreases in Field Review Sampling
- Cost – Increases survey costs (8% additional surveys)

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Design Support

- Dust Sampling
 - Dust samples no longer being collected (7/30/07)
 - Utilizing previously collected data
 - Phase I
 - CSS
 - PDI prior to change
 - Benefits
 - Decreases time/LOE in field
 - Decreases analytical costs

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Design Support

- Alternate Drawings
 - Previously, created 2 designs:
 - One based on the original triggers
 - One including all visible vermiculite
 - Currently only produce one design:
 - Remove all visible vermiculite
 - No longer sampling areas with visible vermiculite
 - Benefits
 - Decreases overall field time/LOE
 - Decreases analytical costs

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Design Support

- Crawlspace
 - Previously, developed design approach on case-by-case basis
 - Currently, only develop design if a true crawlspace has regular access
 - Other types of crawlspaces and those with no routine access are deferred to O&M
- Benefits
 - Standardizes approach to crawlspace removals
 - Decreases field and design time

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Design Support

- Golf Course PDI
 - Conducted PDI over 3 weeks in July-August
 - Inspected 249 zones, each 100' x 100'
 - Collected 269 soil samples
 - Results of PDI – only tee boxes and greens need removal
- Next steps –
 - Procuring golf course architect for restoration work
 - Prepare removal and restoration designs

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Design Support

- Flower Creek Investigation
 - Conducted visual inspections
 - Continuous inspection over 2.5 miles along banks and in beds of flower creek
 - Prepared summary memo.

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Design Support

- White Property
 - Property is on bank of Kootenai River
 - Concerned with working along river bank and restoring excavation consistent with potential flow conditions
 - Water resources engineer from Denver visited site and locations where other restoration work completed
 - Used empirical data for designing bank armoring
 - Completed design for construction next season

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Design Support

2007 Lessons Learned

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Design Support

- 264* work plan mods completed during 2007
 - Typical Mod Reasons:
 - Design Miss
 - Homeowner Change
 - Failed Clearance
 - Change in Protocol
 - Unforeseen Conditions

* Mods may be sent as one document, but may contain multiple portions/reasons. The total listed above counts each Mod portion/reason

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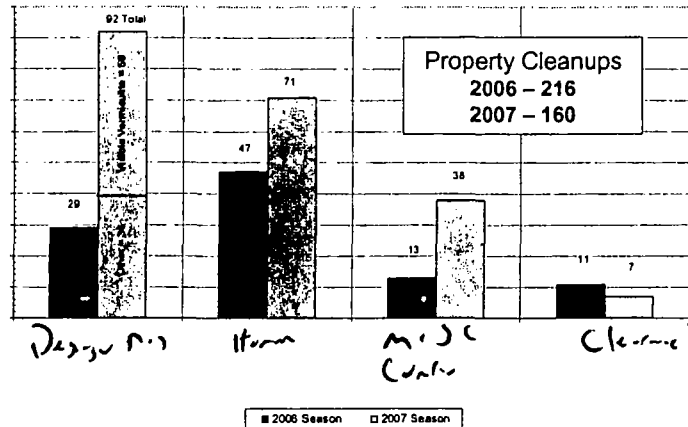


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Design Support

■ Work Plan Modifications



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Design Support

- Design Miss Mods – Visible Vermiculite Issues
 - "Spill-over" from SUAs and neighboring properties
 - Backfilled areas on property – localized low or high spots within yard (septic tanks, mounded areas, etc.)
 - Weather / season affect identifying vermiculite
 - Vermiculite is more visible under sunny conditions
 - Vegetation and ground cover vary greatly between seasons
 - Size of properties has grown
 - Average size of property this year is 3.2 acres
 - Average size of property prior to 2007 is 0.5 acres

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Design Support

- Design Miss Mods – Visible Vermiculite Issues (cont'd)
 - Time / staff at property during PDI vs. removal
 - PDI: 2 staff on site for 8 hours
 - Removal: 6 – 8 staff onsite for 1 week
 - Levels of vermiculite we should be “chasing”
 - 75% of all vermiculite observed is “low”
 - During design all observed vermiculite is marked for removal; during construction, “low” levels may not be removed
 - During removal, we chase visible vermiculite into NUAs

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Design Support

- Design Miss Mods – Visible Vermiculite Issues (cont'd)
 - Vermiculite vs. Biotite
 - Vermiculite is a breakdown product of biotite
 - They are difficult to differentiate in the field
 - USGS findings were inconclusive
 - Biotite is found near creeks and is found in our sand source
 - Developing approach to biotite

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Design Support

- Homeowner Changes
 - Currently allow homeowners to make changes to removal / restoration plans at any time
 - Changes made prior to construction are incorporated into design or design mod
 - Changes made during construction becomes a mod
 - Causes for Increase in mods this year:
 - Visible Vermiculite – Increase in area being removed
 - General knowledge of the project throughout the community

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Design Support

- 2007 Drop-Outs
 - 16 Drop-Outs (plus 2 pulled for ABS program)
 - Reasons included:
 - Illness
 - Inconvenience or timing not right (garden, hunting season, family issue, travel, etc.)
 - Only wanted partial removal (no exterior work)
 - House for sale – new owners to handle clean-up
 - One refusal – doesn't want clean-up

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Design Support

- 2007 Drop-Outs (continued)
 - Steps taken to mitigate drop-outs:
 - Begin the CIC interaction at an earlier stage of cleanup
 - Have the homeowners sign workplans before being submitted to Volpe so they have a "buy-in" to the program at an earlier time
 - Accept scheduling requests to attempt to accommodate the homeowners at a time that's convenient for them
 - Communicating removal dates with residents as early as possible

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Design Support

Upcoming Challenges

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Design Support

- Upcoming Challenges
 - Improve implementation of visible vermiculite protocol
 - Reduce the cost of the design process (PDIs and designs)

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Design Support

Recommended Solutions

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Design Support

- Adjust Visible Vermiculite Inspection Protocol
 - Adjust protocol to account for "spill over" and backfill issues
 - SOP CDM-LIBBY-06 Revision 1 gives minimum number of inspection points
 - Increase number of inspection points to fully characterize property
 - Adjacent to SUAs
 - Adjacent to neighboring properties
 - In area of low and high spots in yard
 - Initiated this at end of this year – appears to have improved mods for these reasons

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Design Support

- Clarify Level of Visible Vermiculite to Remove
 - What levels of vermiculite should we be "chasing"?
 - Low?
 - Moderate?
 - High?
 - Should we remove all visible vermiculite?
 - Should we chase visible vermiculite into NUAs?

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Design Support

- Remove Biotite When Encountered in Existing Soils
 - Biotite cannot be differentiated from Vermiculite by the field teams
 - Therefore, recommend we treat biotite as vermiculite and mark it for removal in all existing soils
 - Train CIC staff to respond to questions concerning occurrence of biotite in backfill sources
 - Revise procedures for analyzing borrow source (PLM-VE)

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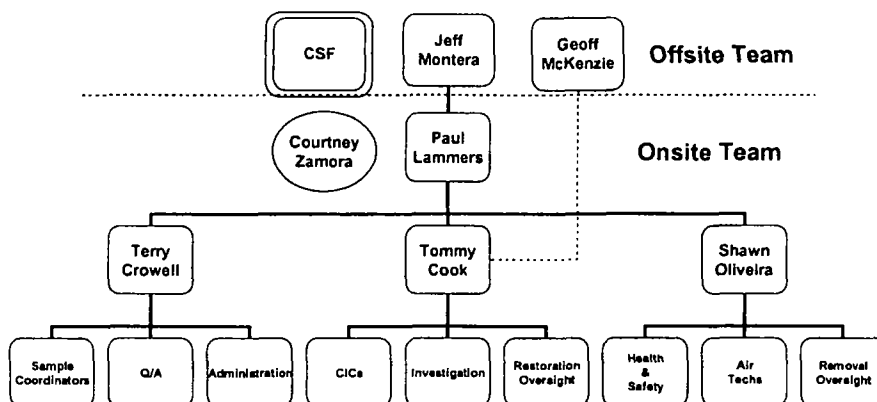


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Oversight Support

- Libby Oversight Team



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Oversight Support

■ Oversight Scope

Off-site

- Maintain and Update SOPs as Needed
- Prepare Soil Samples at CSF
- Support SAP and Report Preparation as Needed

On-site

- H&S Oversight and Reporting
- Removal Contractor Oversight & Reporting
 - Removal
 - Restoration
- Conduct Removal Sampling & Analysis
- CIC Support

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Oversight Support

■ 2007 Accomplishments

- CIC
 - 130 Field Reviews
 - 122 Residential Relocations
 - 3 Commercial Relocations
 - 188 Work Plan Signings
 - 170 HEPA VAC Orientations
 - 143 Completion Forms
- CSF
 - 2,824 Samples Received
 - 3,203 Sample Processed
 - 3,203 Samples Sent for PLM-VE
 - 1,117 Samples Sent for PLM-GRAV

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Oversight Support

- 2007 Accomplishments (cont.)
 - H&S
 - 484 inspections conducted
 - 8,440 H&S observations recorded
 - 827 corrective actions implemented for observed unsafe H&S conditions
 - 1,144 occupational-based personal air samples collected
 - 118 sets of air clearance samples collected for residential removals
 - Successful implementation of SafetyNet (DBO2)
 - Successful OSHA audit from area director
 - Oversight
 - 160 properties (including 4 demos and 1 ERS demo)
 - 28 ERS
 - 187 removal/restoration finals completed

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Oversight Support

- 2007 Accomplishments (cont.)
 - Restoration
 - 2,500 Troxler nuclear density compaction tests performed
 - 324 restoration call-backs completed
 - SOPs (revised/updated)
 - RAWP
 - CHASP
 - GPS Point Collection
 - Developed protocols for quality net (DBO2)

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Oversight Support

■ Residential Relocations

	2006	2007	Difference
No. of Households Relocated	152	122	-30
Average Number of People per Relocation	3	3	0
Average Number of Days per Relocation	12	17	5
Average Cost per Relocation	\$2,215	\$3,035	\$820
Total Residential Per Diem costs (not including contract hotels)	\$200,345	\$208,677	\$8,332
Contract Hotel Costs To-Date for Residential Removals	\$136,418	\$172,082	\$35,664

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Oversight Support

■ Business Relocations

- In 2006 – 7 business relocations totaling approximately \$6,000
- In 2007 – 2 business relocations totaling approximately \$1,000

■ ABS Relocations

- 1 or 2 nights of hotel rooms for ABS participants, if requested
- Total spent to-date \$1,376
- Business and ABS relocations are a minimal percentage of the total relocation budget
- Not all businesses or ABS participants opt for relocation
- Some in-home business reimbursements are covered under residential reimbursements

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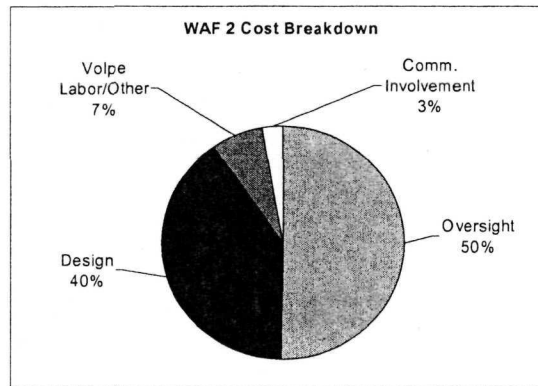


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CI, Design, Oversight Cost Breakdown

■ CI, Design, Oversight Budget – WAF 2



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CI, Design, Oversight Cost Breakdown

■ CI, Design, Oversight Budget – WAF 2

Line Item	FY06 Obligations	FY07 Obligations
Comm Involvement	\$251K	\$228K
Design	\$3.1M	\$3.5M
Oversight	\$4.3M	\$4.5M

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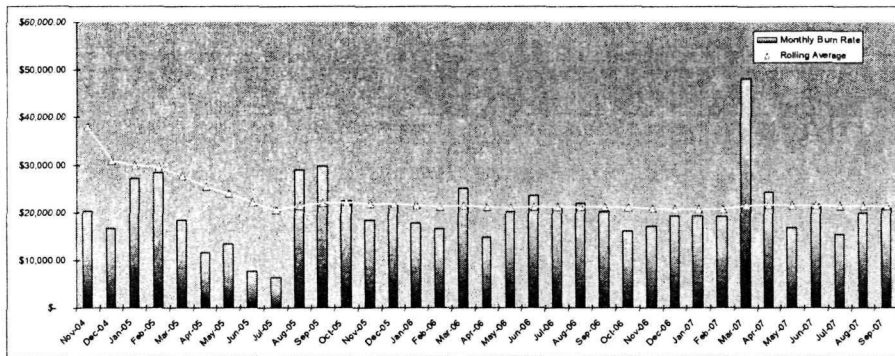
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CI, Design, Oversight Cost Breakdown

■ CDM TO 1: Community Involvement

- Total TO Value (projected) - \$1.09M (over 3 years)
- Monthly Average Burn Rate (actual) = \$22K (72% of projected)



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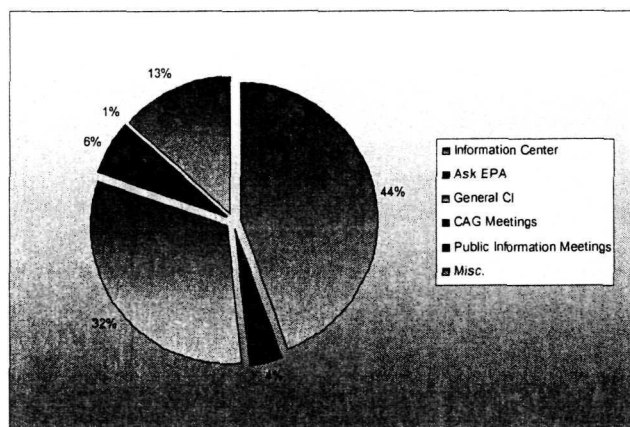


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CI, Design, Oversight Cost Breakdown

■ CI Cost Breakdown by Activity



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CI, Design, Oversight Cost Breakdown

- Program Analysis – Community Involvement
 - CI was 2% of CDM's 2007 budget
 - Costs are driven by:
 - Labor - 74% (Linda makes up 62% of all hours spent)
 - ODCs - 20% (operating info. center & meeting support)
 - Subs - 6% (CAG facilitation)
 - Opportunities for Cost Savings (minimal)
 - Stop supporting CAG meetings
 - Revisit info center operations (e.g., no. of days open, location)

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CI, Design, Oversight Cost Breakdown

- CI, Design, Oversight Budget – WAF 2
 - CDM TO 9: PDI/Design
 - Total TO Value (projected) - \$6.71M (over 2 years)
 - Activity Breakdown:
 - PDI – 63%, Design – 36%, PM – 1% (2007)
 - Average PDI Cost (actual)* - \$7,363
 - Average Design Cost (actual)* - \$5,577

* Current costs

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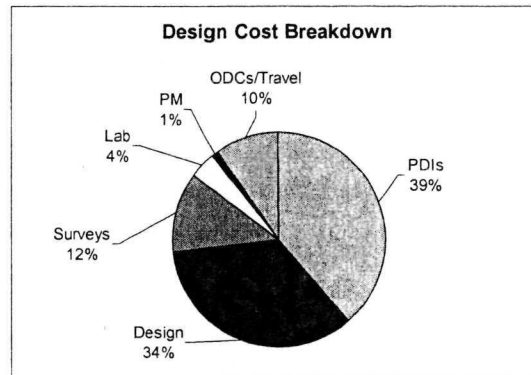


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CI, Design, Oversight Cost Breakdown

■ Design Cost Breakdown - \$3.5M



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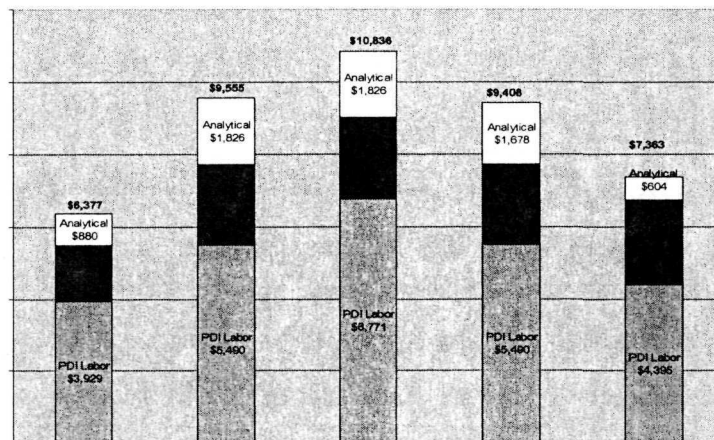
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2007 PDI Costs



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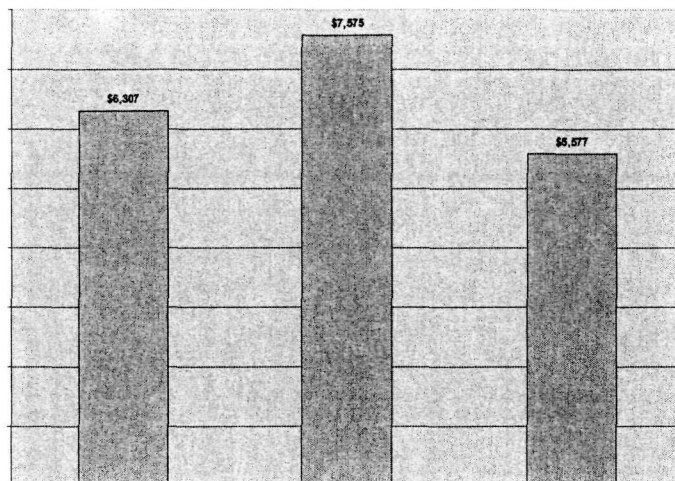
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2007 Design Costs



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CI, Design, Oversight Cost Breakdown

- Cost Analysis – PDI/Design
 - Design was 31% of CDM's 2007 budget
 - Costs are driven by:
 - Labor – 64% (50% of PDI labor is visual vermiculite)
 - ODCs – 12% (travel and field equipment for PDIs)
 - Subs – 24% (surveys and lab)
 - Opportunities for Cost savings
 - Revise visual vermiculite protocol
 - Standardize removals

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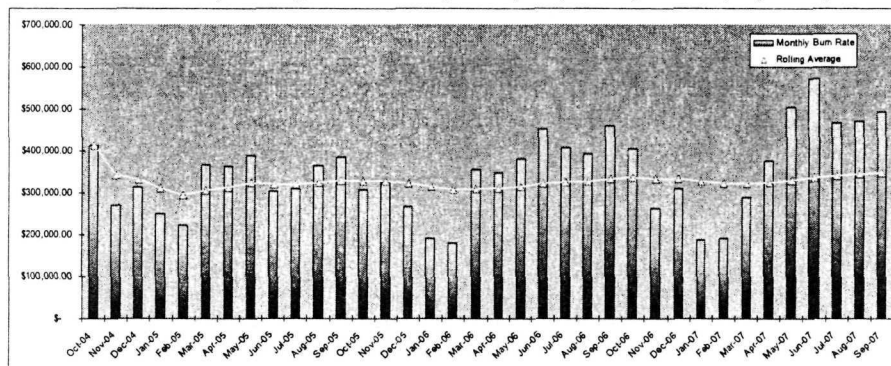
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Oversight Cost Breakdown

■ CDM TO 12: Oversight

- Total TO Value (projected) - \$9.035 M (over 2 years)
- Monthly Average Burn Rate (actual) = \$348K (99% of projected)



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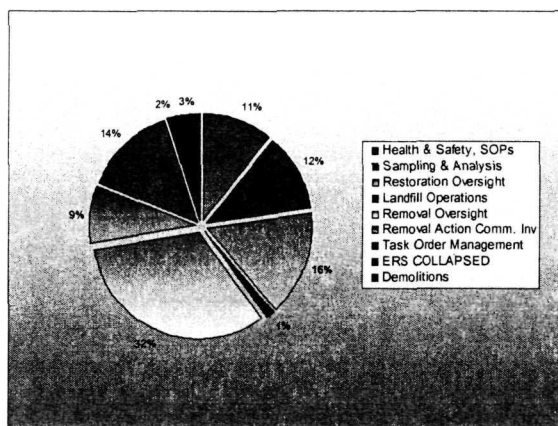


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Oversight Cost Breakdown

■ Oversight Cost Breakdown



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Oversight Cost Breakdown

- Program Analysis - Oversight
 - Oversight was 40% of CDM's 2007 budget (down from 44% in 2007 and 48% in 2008)
 - Costs are driven by:
 - Labor - 65%
 - Non-labor (ODCs) - 24%
 - Subs - 11%
 - Expending more for less
 - We're expending hours at rate of 110% of projected
 - We're expending \$ at a rate 98% of projected
 - Explanation – Projected \$/hour (\$86), Actual (\$75.63)

*Rate of
compliance
needs*

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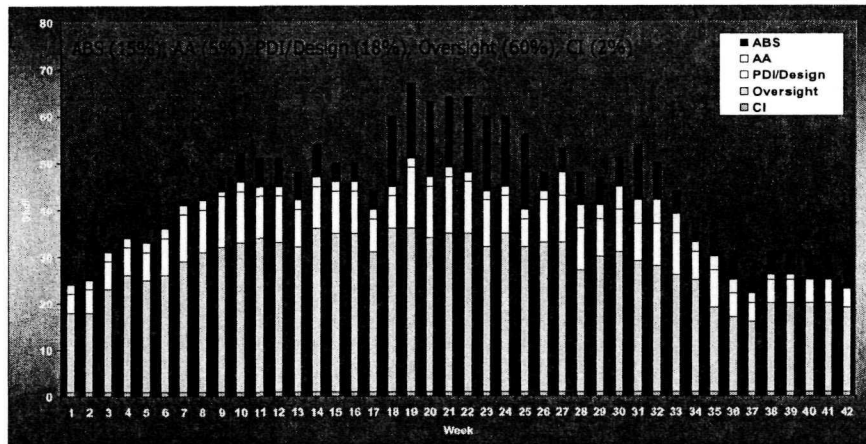


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CI, Design, Oversight Cost Breakdown

Make up of field staff by program



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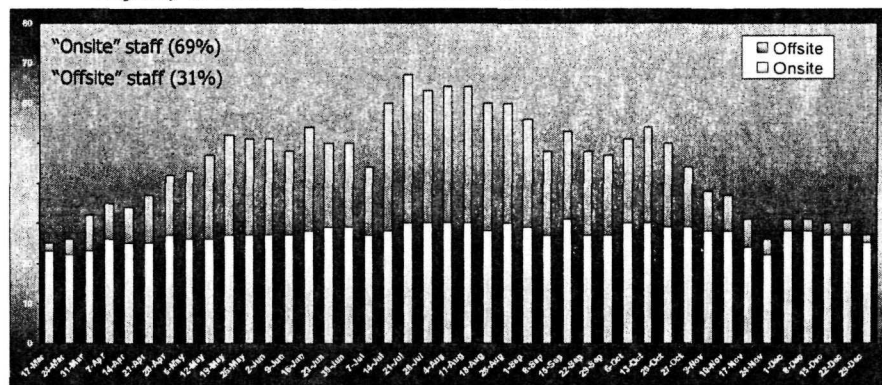


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Oversight Cost Breakdown

- Labor management
 - Significant amount of CDM labor is in the field
 - Majority of that labor is at a reduced "onsite" rate



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Oversight Cost Breakdown

- Field Staff – Percent Onsite vs. Offsite by Activity

Activity	Onsite	Offsite
CI	100%	0%
Oversight	73%	27%
PDI/Design	31%	69%
AA	78%	22%
ABS	32%	68%

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Oversight Cost Breakdown

- ODC Cost Savings
 - Significant effort to reduce ODCs
 - Housing
 - Government per diem rate is \$60/night
 - Negotiation with local vendors has resulted in a 35% (\$78.8K) savings for housing
 - Vehicles
 - Negotiation with vendors has resulted in a 7% (\$22.5K) savings on vehicle rentals
 - Equipment
 - Realized a \$30K savings on pumps by purchasing vs. renting

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Oversight Cost Breakdown

- Subcontracts
 - Projected Subcontracts
 - Nuclear Density Testing (NDT) -
 - Survey – quarterly landfill
 - Analytical – confirmation soil, clearance air, perimeter air, personal monitoring
 - Actual
 - NDT - Used internal CDM resources, eliminating subcontracting costs (\$27K savings)
 - Survey – actual costs are 52% of projected
 - Analytical – Difficult to realize any oversight cost saving for onsite lab because it is being used for investigation support

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Oversight Cost Breakdown

- Program Analysis
 - Opportunities for Cost Savings
 - Process changes – New VV removal has resulted in significant impacts to removal and restoration

Year	Avg. Days/Removal	Avg. Days/Restoration
2006	6	3
2007	7	5
Total Impact*	160 days	320 days

* - based on 160 removal

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WAF 4: Cleanup / Remediation

- **WAF 4 Manager – Julie Borgesi**
- **Site Manager – Courtney Zamora**
 - Project management and coordination of Volpe removal and related contractors
 - Task order development, competition, proposal evaluation, award
 - Progress and schedule tracking; deliverables tracking and review; invoice approval
 - Conduct site walks in support of task order competitions

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WAF 4: Cleanup / Remediation

■ WAF 4 (continued)

- Manage disposal operations (landfill and mine) and disposal contract (Lincoln County Landfill)
- Administer Fill and Topsoil Contracts
 - Oversee Sampling of Material; Coordinate Delivery; Track Quantities
- Manage Landscaping Contract (M. Heimgartner)
- Maintain Security Contract to Support Removals

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WAF 4: Cleanup / Remediation

■ WAF 4 (continued)

- Administer change orders and quick responses
- Manage Residential Relocations (M. Heimgartner)
 - Hotel Contracts, Per Diem Payments, Pre-Payments
 - Business Relocations, incl. Expense Reimbursements
- Procure and Distribute HEPA Vacuums to Libby Residents and Commercial HEPA Vacuums
- Procure and Coordinate Annual Asbestos Training Classes for Community in Libby

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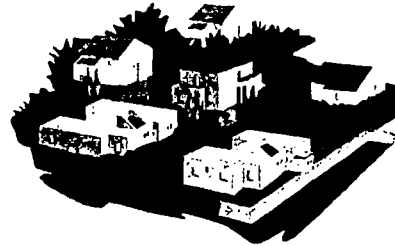
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Cleanup / Remediation

■ Contracts that support removals

- PDI/Design (CDM)
- Remediation (TBD)
- Disposal (Lincoln County Landfill)
- Fill (Noble)
- Topsoil (Noble)
- Security (Tip Top)
- Oversight (CDM)
- Landscaping (Blossom Boutique)
- Relocations (Venture, Sandman, Caboose)
- Laboratory support (CDM)
- IMS (Volpe)



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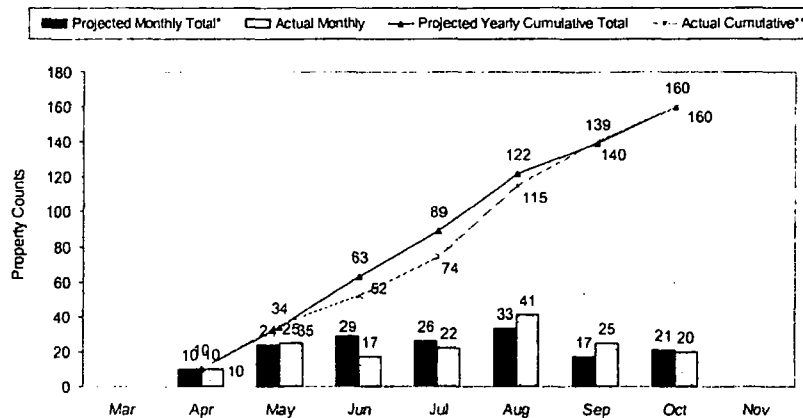


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Cleanup Support – 2007 Removals

2007 Cleanup Graph



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Cleanup Support

■ 2007 Accomplishments

- Met 2007 Cleanup Goal (160 Properties)
- Responded to 86 ERS/Quick Response Phone Calls
- Completed 4 Demos and 1 ERS Demo
- Developed New Hydroseed Protocol for 2008 Implementation
- Completed all but 3 "Priority Properties" from 2001 List

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Cleanup Support

■ 2007 Accomplishments (continued)

- Distributed Residential and Commercial HEPA Vacuums to completed removal properties and quick responses
- Look to Improve Existing Practices –
 - Bladder bag pilot study at Landfill to reduce dust emissions and water usage
 - Implemented hand held H&S and Oversight tools (DBO2)

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Cleanup Support – Properties Completed

Breakdown of Removals Completed					
Year	Interior	Exterior	Combination	Demos	Total
2001	1	3	6	0	10
2002	7	12	3	0	22
2003	57	63	30	0	150*
2004	55	52	46	4	157*
2005	77	73	63	2	215*
2006	32	83	99	2	216
2007	8	84	64	4	160
Total	237	370	311	12	930

Footnotes:

- * In 2003 - 2005, larger properties counted as more than one in previously reported modified totals
- 2003: 155 properties – previously reported
- 2004: 170 properties – previously reported
- 2005: 225 properties – previously reported

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Cleanup Support: Property Count Methodology

- Rules:
 - Individual Address = 1 property
 - Addresses with shared attic space = 1 property
 - (e.g., multiple apartment units or businesses)
 - Alley = 1 property
- Rules that no longer applied:
 - Large properties count as more than one
 - Multiple apartments with shared attic space count as more than one
 - Properties at single address with multiple buildings count as more than one

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Cleanup Support – Volumes Removed

VCI and Soil Volumes Removed			
Year	Total Removals Completed	Volume VCI (cy)	Volume Soil (cy)
2001	10	NA	NA
2002	22	NA	NA
2003	150*	2,433	24,977
2004	157*	2,318	16,079
2005	215*	2,687	30,086
2006	216	3,113	25,729
2007	160	1,648	45,714
Total	930	12,199	142,585

NA - Soil volumes not summarized prior to 2003 for comparison to 2007

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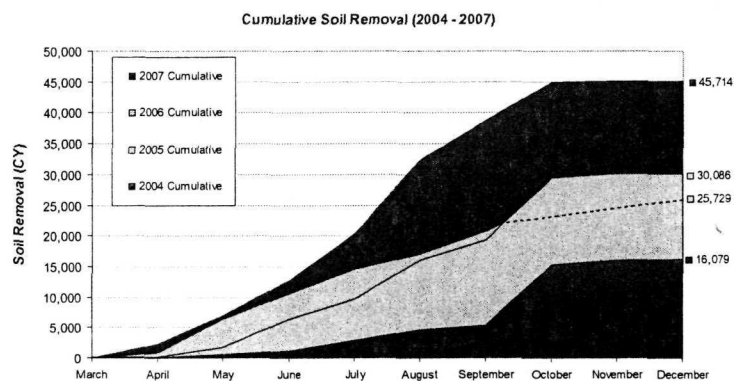
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Cleanup Support – Volumes Removed



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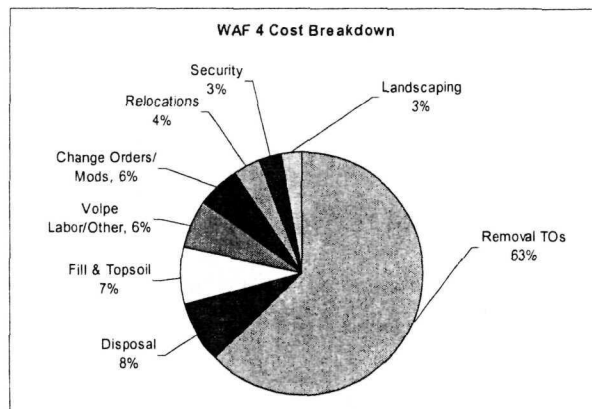


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Remediation Cost Breakdown

■ Remediation Budget – WAF 4



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Remediation Cost Breakdown

■ Remediation Budget – WAF 4

Line Item	FY06 Obligations	FY07 Obligations
Removal TOs	\$5.76M	\$6.84M
Disposal	\$828K	\$886K
Fill & Topsoil	\$338K	\$816K
Change Orders/Mods	\$294K	\$692K
Relocations	\$296K	\$413K
Security	\$365K	\$327K
Landscaping	\$188K	\$298K

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Cleanup Support – Change Order Analysis

Type/Reason	# of Mods	Total Cost*
Visible Vermiculite	58	\$391K
ERS/Quick Response	25	\$135K
Design Miss (crawlspace protocol)	22	\$105K <i>K</i>
Homeowner Change	11	\$67K
Other (Septic Repair, Contaminated Topsoil)	5	\$34K
Unforeseen Site Conditions	6	\$21K
Failed Clearance	3	\$5K
Total	130	\$758K

* 2007 Construction Season Mods – includes mods processed in FY08

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Cleanup Support – Visible Vermiculite Impact

Additional Soil Removal Volume due to vv	13,122 cy	
Additional Removal Costs* (approx. based on gov't est with and w.out vv)		\$1.09M
Additional Soil Removal Volume due to vv Mods	3,668 cy	
Additional Change Orders/Mods Costs due to vv		\$391K
Additional Fill and Topsoil Required		\$435K
Additional Landscaping (Sod and Hydroseed)		\$91K
Additional Disposal (Hauling to Area 19)		\$160K
Total Cost to Remove Visible Vermiculite	16,790 cy	\$2.2M

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